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ILLUSTRATED MONTHLY

THE AMERICAN JOURNAL OF PHOTOGRAPHY

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SPRING PLOUGHING IN NEW ENGLAND. By Geo. E. Tingley.

PHOTO ERA

PHOTO ERA

THE AMERICAN JOURNAL OF PHOTOGRAPHY

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A Plea for Training in Art Photography

As illustrated by the work of Will Armstrong of Boston.

THOMAS HARRISON CUMMINGS.

IT is generally admitted that photography has come to be regarded, of late, as a great and noble art. Whatever may be said of painting, sculpture, music or poetry, whether of loveliness or grace, loftiness of ideal, fidelity to Nature, power to raise or degrade the soul, may also be spoken equally well of photography. Like its sister arts, it can only be practised successfully by those who have a special aptitude for it. The walls of our convention halls and the photographic salons are crowded each year with thousands of pictures, yet the true artists, those who really succeed in making good pictures, are only a few hundred at the most. Moreover, it is curious to note how few educational advantages and encouragements are provided for those who attempt this Art. The young aspirant is left practically to himself to find out everything. He must discover his technique and his tools himself. It is as if you were to take a lad who could not keep his fingers from the pencil and, lock him up in a room with canvas, easel, brush and paints and tell him to make himself a painter. Or, as if you were to set a young musical tyro in a room with a pianoforte and a file of music and direct him to find out for himself the possibilities of his art. The absurdity is acknowledged as applied to painting and music, but when applied to photography no one seems to see it. Why? Because the world does not yet admit that

INNOCENCE, By WILL ARMSTRONG.

PHOTO ERA

SPRING PLOUGHING IN NEW ENGLAND. By GEO. E. TINGLEY.

Frontispiece for April, 1902

photography is a fine art, and even the encouragements of art criticism are denied him, or only vouchsafed him once a year at the annual convention.

These remarks have been suggested by the remarkable success of a young professional photographer who has attracted the attention of the artistic world by reason of his photographic creations. He has recently assumed charge of the Brookline Art Union studio, at Coolidge's Corner, Brookline, and has also opened a new studio at No. 1 Boylston Street, Boston. We refer to Mr. William Armstrong, the well-known president of the Lens and Brush Club of that city.

A BIT OF EARLY SPRING. By Will Armstrong.

Though Mr. Armstrong's pictures have all the final grace, strength and finish of the true artist, and have been repeatedly honored in photographic conventions both at home and abroad, they are not the result of an art training at any school, but largely the result of experience and intuition. He was born in a photographic studio at Saginaw, Mich., thirty-five years ago, the third generation of photographers in his family, so that whatever aptitude he may possess for the practice of his art, he comes by it naturally. With only the rudiments of a common school education he commenced making pictures over twenty years ago. He joined the National Association of Photographers of America at the age of 16, and thereafter he served an apprenticeship under such masters as Stein of Milwaukee, Strauss and Guerin of St. Louis, and Steffens of Chicago. In his choice of masters he was peculiarly fortunate. Few men in his position of beginner and learner could have been more successful.

Emerson says that the only real

AFTER THE STRAUSS LYTRIT. By WILL ARMSTRONG.

education is the provocation which one mind gives another. Day by day his work provoked the criticism of his masters. Day by day, his art training unconsciously progressed. The art of photography is ruled almost by the same laws as govern the art of painting. Almost word for word the same teaching might be given. Color, light, shadow, drawing, grouping, proportion, selection, atmosphere, treatment are all to be considered as much a part of photography as of painting. As in a painting, so in a photograph, the subject is the chief thing and composition next. How to present this subject its most attractive form, how to give it a proper setting, how to select and present it with proper accessories, how to compose it — this is the technique, the science of the art. These were taught Mr. Armstrong by his masters under the skylight, just as the young painter in the art school is taught the elementary principles of his art. It is sometimes said that experience is the best teacher. Yet it is safe to predict that Mr. Armstrong might have been saved many disappointments and much valuable time if he had had some definite instruction in the schools from the outset. As this is a plea for a school of photography, we would suggest that, while with

FAIR BELINDA. By WILL ARMSTRONG.

great waste of time and lost opportunities, he accomplished much, how much more might he not have done, with a little teaching judiciously applied beforehand?

The National Convention of 1896 gave him a gold medal for excellence in portraiture, and two additional gold medals in 1897 for the same excellence. In 1898, besides a gold and one bronze medal received at Celoron, he was also the recipient of a decoration from Vienna, at the hands of the Emperor Franz Joseph of Austria, for superiority again in portrait work. This same year he came to Boston, and every year since, his pictures have received the honors of a salon award, the highest honor attainable in the New England Convention. Meanwhile as president of the Lens and Brush Club he has done much to cement the ties of friendship and brotherly love among the photographers of New England, and has helped to lift, by this association, the standard necessary for success in photography in these parts. The critical faculty has been cultivated among them, and the work now is better than ever before.

It takes intelligence to make business, and it takes push and perseverance to carry on business after its reputation is won. Being a man of judgment and determination, Mr. Armstrong has had no difficulty, since coming to Boston, in convincing patrons of the merits of his pictures, and he retains the friendship of those whose custom is worth retaining.

After all is said, it is the people who want quality and are willing to pay for that which is worthy, and who insist on getting good service every time, who prove a permanent benefit to any business establishment. It pays the photograper to do all in his power to secure such customers as regular visitors. The idea of offering that which is worthy, and of building up a patronage among those who appreciate that which is worthy appeals to Mr. Armstrong and, indeed, to every man who is well started on the road to success.

Beauty finds welcome in all eyes. But when beauty and utility join hands, the combination becomes irresistibly attractive. In this artistic age, things have to gratify the æsthetic sense. Now, if the most common articles of trade require a touch of taste to become valuable commercially, how much more should photographs appeal to the sense of the beautiful. Photographers as well as artists and poets must cater to this sense. Mr. Armstrong holds this to be a cardinal point in all his

MY LADY DAINTY. By Will Armstrong.

business success. Hence all his pictures have that subtle charm of finish and grace that lift them above the work of the average.

Beginning Easter Monday, and thereafter for the term of two weeks will be shown in the beautiful reception rooms of the Brookline Art Union an exhibition of children's pictures, (many of them the product of Mr. Armstrong's skill) entitled "A Dream of Fair Children." John Tennant, writing in "Wilson's Magazine" says, that the most obvious mistake made by professionals in their portraits of childen, lies in the

A LAUGHING BABY. By WILL ARMSTRONG.

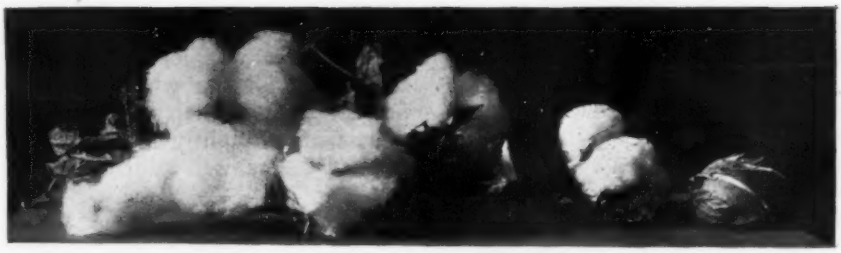
lack of reverence and sincerity which marks their treatment of children as subjects. The influence of environment, the effect of the strangeness of the studio, and its methods upon the child are points which rarely receive much consideration. The beautiful reserve of childhood, the natural sensitiveness and dignity which restrain most children from any familiarity with strangers are things which the average professional recognizes only to brush aside as undesirable. His method is to carry the child through the sitting on a wave of excitement which develops in the little sitter the very qualities which make a successful portrait the most remote of possibilities." In the hands of a skilled worker like Mr. Armstrong these difficulties are soon overcome. His aim is to put the child at ease, and thus overcome at once any feeling of constraint or shyness. With the feeling of strangeness removed, his children pose freely and unconsciously and are graceful in every move. A glance at the "Dream of Fair Children" Exhibit will show the hand of the master on every side.

Meanwhile his studies in adult portraiture are pictures of feminine grace and beauty. There is life in his photographs, and they stir the harp strings of the soul because they represent the product of one who loves his work. As the sculptor of old said unto his beloved when he had finished her statue and declared it was the best that he could do, since there was love woven into it,

"For here thy smile for centuries on marble lips shall live
For Art can grant what Love denies and fix the fugitive;
And thousands, when they come from far, shall say, not quite unmoved,
So smiled upon Praxiteles the Phyrne whom he loved."

The same may be said of all forms of art, whether it be a statue or a portrait made with lens, brush or pencil. The best work is done, all other things being equal, by the man whose heart and soul is in his work. This is the fulfillment of the law. And in the case of Mr. Armstrong his pictures show distinct evidences of this form of artistic feeling.

Plain Talks with Beginners



COTTON BALLS. By M. F. Gaines.

INTENSIFICATION AND REDUCTION

WHEN a plate has been under developed the details are all visible, yet the dark parts have not enough body to stop the passage of light. Prints from these have no contrast, nothing but smoky skies and impure whites. Such a plate may be intensified and made much denser. The intensifier usually adds somewhat more to the darker parts than to the lighter, and therefore increases contrast. Hence intensification helps overexposures which are very flat, lacking in contrast.

Intensification is best carried on immediately after washing and before the plate is dry. It is very necessary to wash out the hypo from the film, or yellow stains will appear and spoil the negatives. If the negative has been dried, it should be soaked in water so that the intensifying solution can easily penetrate the film.

A convenient intensifier is made up of sodium sulphite in one solution and mercury bichloride (corrosive sublimate) in another, The first step is to immerse the wet plate in the mercury solution when the dark portions bleach out, leaving a white deposit in place of the image. We leave the plate in the solution until no further bleaching is apparent. The plate is then thoroughly washed, and immersed in the sulphite solution, when the white image becomes dark again. In place of sulphite a solution of ammonia may be used, or of ammonium chloride. Wash well after this operation.

Following is a formula for the mercurial intensification. One ounce of bichloride of mercury in about 30 ounces of water, and it is wise to add a small quantity of potassium bromide. After washing well, add a solution of 1 ounce of sulphite of soda in 10 ounces of water. When we wish only slight intensification we use more dilute solutions.

The mercury process is sometimes varied. In the modification, we make a saturated solution of the bichloride and add to it a quantity of the solution here given.

A brilliant red or orange precipitate will form which has the curious property of being soluble in iodide solution. Finally the precipitate will fall copiously in the solution and will then dissolve the difficulty. We are now reaching the point where all the potassium iodide and mercury are combining to form mercury iodide, and our object is to make the solution barely turbid. We now add one ounce of hypo and dilute our intensifier to twenty

ounces. Three parts of water added to one of this stock solution make our intensifier. Yellow stains will be produced with this, as with all mercury formulæ by careless washing before intensifying.

In place of bleaching by mercury, one may use 75 grains each of copper sulphate and potassium bromide in 6 1-2 ounces of water. After ten or twelve minutes in this, and a five-minute wash, the blackening is effected by a solution of 90 grains nitrate silver in 4 ounces of water.

Let us note what happens when the mercury intensifiers are not worked properly. Suppose the hypo is left in the plate. When we bleach the operation proceeds without difficulty, and no signs of trouble show until the blackening process begins, when we may get disagreeable yellow stains. Many people blame the intensifier, and the stock-house man will tell you how many times a customer blames his prepared intensifier when they have by their troubles in intensifying proved their own negligence in washing.

The mercurial intensification is very complete, and sometimes care must be taken not to intensify too greatly. The deposit is usually reddish brown, and is, therefore, of great photographic opacity. Mercurial intensification has some drawbacks, however. We must bleach and then color the image secondarily. We do not therefore know, except by experience, just how much to bleach first. The longer we leave the plate in the mercury, the greater will be the density.

When mercury intensified negatives are printed on platinotype papers, the black tones are made warm in color, and this is sometimes a disadvantage. To overcome this, we must varnish our negatives when we print on this paper. The amount of mercury from the plate which is transferred to the paper is small, yet is enough to make good black prints impossible without the varnishing.

There is a method of intensifying not much practised, which might interest some experimental turn of mind. First we bleach with mercury bichloride, and when washing is finished we develop again in the light with a slightly old developer. Amidol seems well suited for this work.

None of these methods are direct, and the agfa intensifier of the anilin will give a grey-black direct intensification in a few minutes. It is in one solution, and is mixed one part with nine parts of water for use. Intensification proceeds rapidly, and is stopped by washing.

A similar intensifier is the uranium variety now procurable already mixed. The deposit is reddish and much denser than it looks to t he eye. There is doubt, however, as to the permanency of the uranium deposits.

Reduction is the reverse of intensification, and as in the intensifying processes different processes make different contrasts. For example, potassium ferricyanide reducers attack the weak parts of the image first, hence this is good to remove chemical fog, especially on lantern slides, where white skies are wanted. On the other hand, ammonium persulphate attacks the heavy deposits first, and is capital for halated subjects.

The red prussiate of potash is another name for ferricyanide of potassium. We make a solution of this, one part in fifteen of water, and another of hypo, one part in fifteen. A little of the red prussiate is added to the hypo solution, and the reduction takes place, at first slowly, then with increasing velocity. For this reason, do not make baths too strong.

It is not necessary, as in intensifying, to wash thoroughly. A slight

washing will dilute the hypo, and the hypo bath of our formula is then unnecessary, as the hypo is still in the plate. A small quantity of the red prussiate in a tray will start the reaction. Ferricyanide should be kept in a dark bottle, as the light decomposes it readily, making it worthless for reducing purposes.

The agfa reducer in little tubes ready for solution is a convenient form for occasional reducing. Here we have a direct reducer, and we may follow the reduction by the eye, and when light enough we wash again to remove the chemicals which the reducer puts in the plate.

Reduction is of great value in making lantern slides. We expose, as correctly as possible, then purposely develop until the sky fogs. At this point our slide is worthless. We reduce until the slide just clears. Obviously we can reduce until the slide just clears with accuracy, whereas it is more difficult to stop development just before fogging commences.

In conclusion, the properties of ammonium persulphate are worth a few lines. Local reduction is very good with this chemical. It attacks the heavy blacks of the negative first. Many a white dress, a drapery, or a window will develop in clouds of halation. With a three or four per cent solution of persulphate, local reduction may be carried on finely.

Ammonium persulphate is very unstable. The product formed is ammonium sulphate, which is inert and has no action on the plates. Hypo will destroy it, and so we must have a well washed plate before action begins. Possibly, however, this is an advantage, as the persulphate would then be a hypo eliminator. Nevertheless, no better advice can be given to the amateur than to wash his plates well.

EARLY SPRING LOGGING. By H. F. Allbright.

PERCY LUND

I BELIEVE that very few who practise photography make much use of the camera for copying illustrations from books or engravings of subjects that are interesting or useful in connection with some study or other. In most of the text books on photography there is usually to be found a chapter or section upon the subject of copying, but so far as my memory serves me, in nearly every case the matter deals with the copying of photographs, early portraits, etc., the work of the professional only. That in my opinion is the least useful application of the camera for copying purposes, but when we come to the collecting of illustrations dealing with some specific subject, there is no end to the scope of the camera. There are an infinite number of subjects in which a man may interest himself in this direction; the camera makes the pursuit unquestionably practical, and brings it within the reach of the most modest purse, for it is very easy to reproduce prints from old and valuable books that one may obtain on loan from friends or from libraries, while it would be most expensive and in many cases quite out of the question to buy them.

I have for example a series of portraits of eminent authors which affords me a great amount of pleasure, and I also possess a few prints illustrating particular places, showing that wild exaggeration that characterized the work of landscape artists of a hundred years ago. I am beginning moreover to collect quaint biblical pictures, especially those where the artist has ventured to depict the Creator himself; the latter I regard as particularly valuable, since they show the very crude conception of some of the earlier painters and illustrators, which of course reflect those of mankind in general.

In connection with this reproduction of pictures, it is not generally known, I feel sure, that if we want a duplicate of any particular picture for hanging upon the wall of a room, it can be easily made larger or smaller than the original as required, and when printed on platinum one can obtain a capital imitation of old steel or copperplate engravings.

To copy pictures from books the arrangements are of the simplest, practically nothing beyond the camera is required, the illustration to be copied being fastened with pins to the wall or to a door, while care is taken to fix the camera exactly level, and exactly opposite the center of the picture. Or the camera may be used upon a table without its stand,

the picture to be copied being fastened to a drawing board, or in the case of a book, fastened open by means of elastic bands. Neither is it difficult to copy by placing the camera in a vertical position, fixed to a wooden rod laid across two chairs, the book or picture being placed upon the ground. With a wide angle lens and the camera quite close to the picture, considerable enlargement may be made in the copying if desired.

I recommend my readers who are making no particular application of the camera at present to experiment in this direction. I feel sure it will arouse their interest again, and they will be almost certain to find some subject which appeals to their taste.

Having devoted so much space to one subject, in my present letter, I must now turn to other matters, and deal with them more briefly.

Our Royal Photographic Society, with the management of which great dissatisfaction has been felt for some time past, has by a recent election been put on quite a different footing, almost all the old council men have been thrown out, and a new committee elected, still under the former president, who has shown himself so worthy of support, Mr. Thos. R. Dallmeyer. It is expected that many much needed reforms will be introduced when the newly elected committee gets to work.

I saw a paragraph in "The British Journal of Photography" a week or two ago relative to the varnishing of negatives, and the writer there recommended very strongly the application of a water varnish immediately the negative is removed from the washing water. This it was stated was the best known remedy against damage from silver staining, while its application admits of subsequent retouching without the employment of a medium. The following formula is that recommended. Place in a clean enamelled pan one pint of water, into which insert four ounces of shellac in thin flakes, and place the vessel on a fire or gas stove until the water is raised to 212° F. When this temperature is reached a few drops of a hot saturated solution of borax are dropped into the boiling pan containing the shellac and water, taking care to stir vigorously with a long strip of glass until the shellac is all dissolved. Too much borax should not be added, only just sufficient to cause the shellac to dissolve, and it is better to stop short, if anything, before all the flakes dissolve out than add too much borax. The solution is then filtered carefully, and when cold the water varnish is ready for use.

Now that framing in what is known as the passe-partout style is becoming so popular, it may be well to say that the use of brass rings for suspending the frame is by no means advisable. I strongly recommend in preference a loop of tape. This can be fastened without any difficulty to the outside of the back by means of a strip of cloth or cardboard about an inch square glued down to it. This is quite as strong as the ring, and since it does not penetrate the cardboard back, the picture within remains almost hermetically sealed, and no air or dust can penetrate to it. The two ends of the loop should be spread about half an inch or more apart, so that the picture will hang straight. If the ends of the loop are close together this will not be so easily accomplished.

Foreign Abstracts

Camphor as a Deoxidizer. E. Kastner finds that the addition of camphor to any substance used in photography which has a tendency to change by exposure to the air, completely prevents this from taking place, without exerting any deleterious effect on the solutions. Among the uses to which he has applied it are these; iron-ammonia solution used for blue-printing and platinum paper, ferrous developers, metol one solution developer, glycerine-oxalate platinum developer, and starch paste, which does not sour. A small piece of camphor is put into the bottle, where it floats, and the only care necessary is not to pour it out with the contents. The same author recommends a process for uranium toning of bromides, employing two solutions and thereby getting pure whites. First treat the print with a solution of unanium acetate, 1:100, with three or four drops of strong acetic acid. Pour off this this solution, which may be used repeatedly, and thoroughly wash the print. Now treat with a 1:100 solution of red prussiate of potassium, which should be thrown away after use. The prints take a beautiful brown tone without any discoloration, of the whites. (Lechner's Mittheilungen, 1902:39.)

Developing Silver Chloride Papers. Hermann and Liesegang find that silver chloride development papers, such as Pan paper, are differently affected by developers from bromide papers. For instance gallic acid, which is not a bromide developer, gives good black tones on chloride papers, by an addition of alkali. Pyro and pure paramidophenol give good colors without sulphite. Amidol, which develops bromide without alkali, has no effect on chloride until sulphite is added. Metol with sulphite is a very energetic developer. Ordinary P. O. P. after short exposure may also be developed by weakly alkaline gallic acid with black tones, while slighly acid hydrochinon gives reds and browns. The best developer for this paper is, however, iron oxalate with citric acid added. (Phot. Correspondens, Jan. 1902.)

Agfa Intensifier. Dr. Hauberisser, studying the effect of the Agfa intensifier upon a negative, finds that it gives a comparatively small intensification unless after treatment with amonia or iron oxalate is given, and that a prolonged treatment with the intensifier, or an after treatment with hypo causes a considerable reduction to take place.

Through Europe with a Camera

HERBERT W. TAYLOR

MANY readers of the PHOTO ERA are undoubtedly planning at this time for a tour abroad during the coming summer, and of course a camera will be indispensable to the full success and enjoyment of the trip. I would urge anyone who may be going abroad, and who has not a camera, to add one to his equipment, even though the purchase may entail the sacrifice of some luxury. There is a well-known precedent for a sacrifice in the cause of art, in the case of the people of Cologne, who did without butter during a long period and used the money thus saved in building the so-called Butter Tower, one of the graceful details of their cathedral, and one of the sights which the traveler on the continent will be sure to see.

STRASBURG. By ARTHUR G. LEWIS.

A film camera is preferable on account of its lightness and convenience, the films being obtainable almost anywhere. It will be well, however, to obtain from the manufacturers a list of their foreign agencies before starting. The developing may be done through these agencies also, if desired, or the films may be brought home and developed at leisure I have seen films which were developed at various places abroad and the work was well done. It would seem advisable to have some developing done at the time so as to make sure that the exposures are being made correctly, as the conditions of light may be quite different from what one is used to at home, and again there is always a chance of the camera getting out of order. Some years ago on a foreign steamer, I met a young lady who had used up a roll of fifty exposures, and through ignorance of the correct manipulation of her camera, had

IN THE TYROL. By ARTHUR G. LEWIS.

made just fifty double exposures. By all means get the camera now and learn to use it, instead of buying an instrument a few days before sailing. Such procrastination is sure to be a source of lasting disappointment.

Fewer failures will occur if the camera be one having fixed focus. A three and a half square or four by five box of this style will be found less expensive and cumbersome than a larger camera would be, and when a lot of pictures of either of these sizes are mounted in an album they seem quite large enough.

While it is possible to purchase excellent pictures of all places of interest, there is a satisfaction in making one's own pictures. The places visited will be more clearly impressed upon the mind through the extra interest taken at the time of making the exposure, and the collection of prints will always be an excellent reminder of a pleasant and profitably spent summer. Then you can obtain something which no picture store can supply in the little bits of local color, quaint buildings, quiet village streets with thatch-roofed cottages, peasants at work with queer, unwieldy implements, groups of children at play, and bits of life along the road, together with curious old-world costumes. Certainly a trip through Europe cannot be a complete success without some kind of a camera to aid in recording one's impressions by the way.

A gentleman who has recently returned from an extended tour, brought a large lot of films to me with the request that I should develop them and make prints. They were of the four by five size, and as he thoroughly understood the use of his camera, and had moreover shown good judgment in selecting subjects, there proved to be but a small proportion of failures. I have lived over my own foreign trip again while working on his pictures, and I have thoroughly enjoyed the experience. As a truthful and delightful record of his progress through several countries and art centers, the collection is singularly comprehensive. Apparently he did not miss a church, palace, or ruin, and it is a revelation to learn how many handsome public buildings there are in the world. Besides this class of pictures, he has also many charming bits of local color which seem to draw one into a bond of familiar sympathy with the people of other climes.

Coincidently, I have been fortunate recently in seeing three other sets of photographs which were made by friends while they were abroad, all of them four by five or smaller in size, and all admirable as reminders of their holidays. One set in particular is peculiarly beautiful and instructive. They were made by a student of landscape gardening, who seems to have cared very little for the usual views of the noted works of man; but he has turned his attention to gathering pictures of beautiful spots, which he seems to have detected with the unerring eye of a true artist. The result is that every photograph is a gem, although they are only the size of a number two pocket kodak.

Surely no one can take a camera through Europe without returning with a nobler ideal and a desire for more beautiful photographs than he has been satisfied before to make. And he will realize more fully that "man's reach should exceed his grasp." The pictures will make for a more vivid recollection of the European tour when the passing years have left it an incident in the fading background. But one should be well prepared to understand Europe before starting, and the paintings in the museums will exert an uplifting influence upon one's future camera

work only if the paintings be studied with intelligent purpose. In Grant Allen's book, "The European Tour," we find some excellent suggestions anent that class of guide books which state that a certain painting was executed by a certain man at some time during a certain period, and leave the searcher for knowledge with the statement that the canvas is considered a masterpiece. Allen tells how to see the meaning which the artist wished to convey, and what characteristics of composition, color and style combine to make the picture a great work of art. I think I should want to read Grant Allen thoroughly before venturing abroad, and I would read more. I would read Ruskin, and I would search the libraries for further information.

THE VILLAGE STREET IN AUSTRIA. By Arthur G. Lewis.

When the trip is over and the films have been brought home, it will be much better to cut the rolls and develop each exposure separately, so that those which shall require a longer development may receive it without detriment to the others. This method will, of course, consume considerable time and will seem a laborious undertaking, but if there be two trays, one containing strong and the other weaker developer, it will be safe to develop several exposures at once, changing them from one tray to the other as may appear needful. In this way the extra expenditure of time and labor will not seem nearly as much of a hardship as would be the loss of some fine views through careless or hurried development; and then remember that the exposures were made at the cost of much time and expense, and moreover that to duplicate them would be practically impossible.

Should the films for any reason have to be sent by mail, do not fail to register the package and thereby avoid all possibility of loss, miscarraige, or destruction by accident.

NUREMBURG. By Arthur G. Lewis.

Window Photography

DAY BAKER

ONLY the enthusiastic amateur photographer can appreciate the great enjoyment of producing portraits of friends that are recognized as artistic pictures and good likenesses.

Many amateur photographers make fairly successful attempts at portraits out-of-doors with the snap-shot camera, but in most cases the pictures produced lack the softness of detail, and the well controlled lights and shadows that are necessary to make a satisfactory and artistic picture.

As most devotees of the camera are not able to secure the use of a studio with a skylight, the next best alternative is so-called "window photography," or portraits made in an ordinary room where the subject is posed before the light of a window.

The apparatus necessary is extremely simple and within the reach of every amateur. The examples shown in connection with this article were taken with few accessories, consisting mainly of a sheet to tack over the window, a sheet to use as a back-ground, a back-ground costing one dollar, and a child's hoop with white cotton cloth used in connection with a clothing pole to soften the high lights on the face.

The camera used was a Pony Premo 5x7, with a low-priced rapid rectilinear lens working at f 9.

Should the reader wish to experiment with window portraits, I would make the following suggestions:

Raise the window shade of the window before which you intend to pose your subject, and over the frame of the window tack or pin a sheet. If you are so fortunate as to possess a bay-window, hang your sheet at the opening to room so as to diffuse the light from the three sides. This will give you a soft and at the same time a sufficiently strong light for your work.

A better skylight effect can be obtained if the sheet over window is hung by nails or picture mouldings, so that the top will be about three or four feet from the window, thus making a slanting screen.

If your subject is to be taken sitting, provide a comfortable chair in which there will be easy support for the back. This is necessary in order that the subject may not move during the exposure. You will find that a great variety of lights can be obtained by posing the subject at different angles and distances from the sheet. The shadows on the darker side of the face can be softened by use of a sheet or piece of white paper thrown over a folding screen, or high backed chair, or other piece of furniture. The strong contrasts can be modified by moving this screen around until the desired effect is obtained.

While one of the dollar backgrounds is desirable, yet it will be found that a neutral colored shawl, curtain, piece of felt, or even a good sheet of brown paper will make an artistic background. Paper on the wall will often answer, if not of too pronounced figure. The subject should not be posed too close to the background, as it is not desirable that the background be within the focal plane — that is to say, it is better to have the background out of focus.

Having your subject posed in the position to get the lights you desire, look on your ground glass, and get the focus right. It is my custom, after getting the focus sharp, to move the lens forward a trifle, thus

DAY BAKER AND ASSISTANT.

making the focal plane come just in front of the subject's face. This makes a much softer picture and saves considerable retouching. The examples shown have little or no retouching.

It will be found desirable in most cases to work with the largest stop in the lens, or with a full opening, as this will give sufficient detail, and in addition to this, more light is admitted and less time for exposure is required.

PORTRAIT. By Day Baker

No definite rule can be laid down for time of exposure, as the amount of time required will depend on the size of window, the strength of light, the distance the subject is posed from the light, and the complexion of the subject. The examples shown in connection with this article were exposed eight to twenty-five seconds.

Care should be taken in the development of the plate that it is not carried too far, or that the developer is not too strong, as either of these troubles are likely to produce harsh negatives, and strongly contrasted pictures.

After the negative is thoroughly dried, defects of the complexion, wrinkles, etc., can be touched out, and shadows softened by retouching. A drop of retouching varnish should be thoroughly rubbed over the face and neck until it is dry. By holding the negative to the light, or placing in a retouching box, it can be retouched by using a hard pencil with an extremely long point, sharpened to a nicety by use of fine sand paper.

Care should be taken in printing, as over or under printing may spoil an otherwise good picture. A rough paper makes a softer and more artistic picture than the smooth. The subjects used for illustrating this article were printed on rough Bradley platinum paper, toned to brown, and special rough velox; some developed in the natural black, while others were developed in the brown and red tones.

The printing and developing of velox or similar papers is extremely simple. The rules have been given many times, but for the benefit of those who have not seen them, or do not have them at hand, we would say that the red and brown tones can be produced by adding the following coloring solution to the regular velox developer:

Ammonia bromide . . .	1-4 oz.
Ammonia carbonate . . .	1-4 oz.
Water	1 1-2 oz.

For producing brown tones, print six to seven times as long as usual, and mix your developer in the following proportions:

Velox developer . . .	1 oz.
Ammonia solution . . .	1 dr.
Water.	6 oz.

For sepia tones print eight to ten times as long as usual, and mix your

CHARACTER STUDY. By Day Baker.

developer in the following proportions:

Velox developer	1 oz.
Ammonia solution	2 dr.
Water	8 oz.

For chalk red tones print twelve to fifteen times as long as usual, and mix your developer in the following proportions:

Velox developer	4 dr.
Ammonia solution	1 dr.
Water	10 oz.

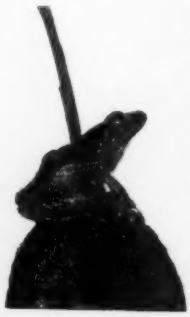
Prints darken as they dry.

It will be found that the prints dry out a little darker than they appear in development, and that by a little experimenting almost any shade from chalk red to black with brown tones can be produced.

Prints developed in the brown or red tones will be found to possess a peculiar softness that seems unobtainable in black development, and they become more artistic.

Photography in Spring

ERNEST HAROLD BAYNES



PEEP FROG.
ACTUAL SIZE.

PERHAPS no instrument invented since the world began has exerted a direct influence in so many different branches of human occupation as the photographic camera. Practically in every art, and science, and craft in which are required accurate images of visible objects, and permanent records of their movements or actions, the camera is indispensable. Nor is the instrument limited by the visibility of an object whose image it is desired to record, for the movements of thousands of invisible stars are recorded every clear night in the year at the different astronomical observatories. So valuable has photography become in this one branch of science alone, that there is now scarcely any astronomical observation which cannot be made better photographically than in any other way. The same statement is true, in a measure, of the application of photography to many of the other sciences.

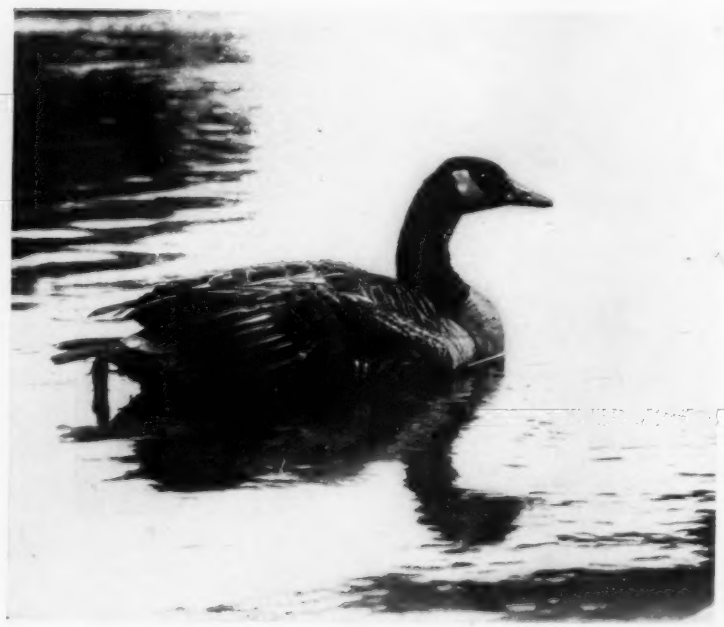
Perhaps in none of these have the results been more apparent to the general public within the past few years than in biology. Such men as Dugmore, Chapman and Herrick in America, the Keartons in England, and Collett in Norway, have been able by photography to present many portraits of animals and flowers better than they have ever been presented before, and many facts concerning animal life which are entirely new. But what has been done in this direction, excellent as it is, is but the beginning of photographic nature study. Of all the living things upon the earth — animals and plants— not one has yet had its life history fully illustrated. In no other way yet known to man can they be so illustrated, setting aside the fact that a camera can do more work in the one-thousandth part of a second than a man with brush and pencil can do in a month — aye — or in a year. The man sees but a part of what is actually present in a moving object, and then draws imperfectly what he thinks he remembers of that part. The camera sees all and records all, to the minutest details, with absolute accuracy, and in less time than it takes the man to wink.

There is no better time for one to begin the study of nature with a camera than this month of April, the opening of spring. The weather is never more delightful than now, and interesting subjects are numerous. The hibernating animals which have been inaccessible to the photographer all winter, have now left their burrows and hiding places in hollow trees, and are beginning to search for the food which is none too plentiful as yet. The woodchuck may be seen sunning his thin body at the mouth of his hole, and the dainty gray flying squirrel comes out at dusk to sail among the still leafless trees. The first wild flowers too, are blooming bravely, and the photographer who desires to make a complete set of wild flower pictures, must begin at once and work fast, for some species are already on the wane. The birds are becoming more numerous every day, and I can scarcely imagine a more delightful occupation than photographing them. The photographing of the nests and eggs

SOLITAIRE. By E. H. Lufkin. Haverhill Camera Club.

next month will be a comparatively easy matter, though none the less interesting for that; but making pictures of adult wild birds is an occupation requiring plenty of time, unlimited patience, and for the best work, a high-grade instrument. With this combination, and the addition of a liberal supply of ingenuity, almost any bird can be photographed. Even wild ducks can be bagged with the camera, as is evidenced by the work of Mr. H. K. Job, in a recent number of "Everybody's Magazine," and by a judicious use of food and decoys, the Canada goose, on his way to the north, may be induced to stop long enough to have his portrait taken.

The photographer with a taste for herpetology may now get his first chance to make pictures of the snakes and turtles which the warm weather has coaxed from their winter quarters, and of the frogs which have but lately risen from the mud at the bottoms of the ponds. While walking along the shores of quiet pools he may find floating on the surface of the water, masses of frog spawn, transparent jelly, full of minute black specks. Here is an opportunity to obtain a most instructive series of photographs, showing the metamorphosis of a frog. If one of these masses of jelly is carried home and placed in a white bowl of clear water, and set in a sunny window, every stage of the development, from the egg to the perfect frog, may be observed and photographed. The black specks will gradually become larger, and by and bye each will take the form of a tiny fish, curled up inside a yellowish sphere, the egg, imbedded in the jelly. These dark, fish-like objects are the pollywogs, and at times they may be seen to wriggle, although still imprisoned in their transparent cells. One fine



A CANADA GOOSE, SWIMMING. By John Boyd.

YOUNG FOX. By J. Bauer.

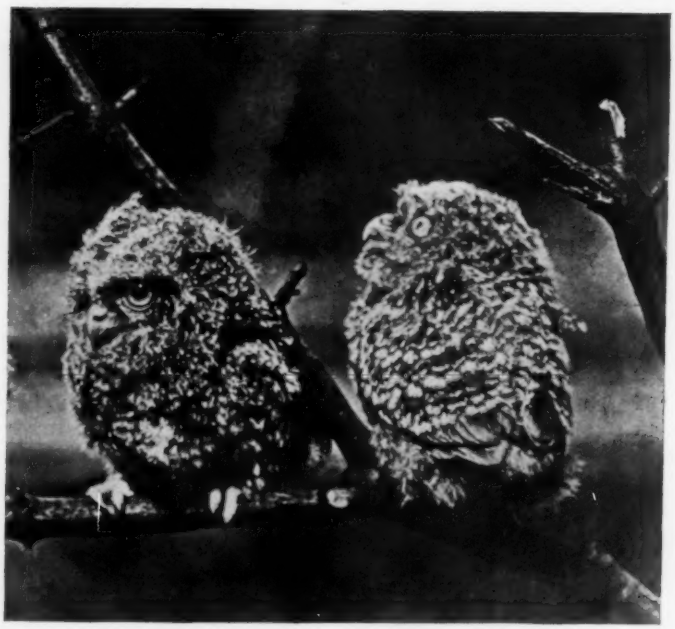
morning they will be found to have wriggled their way out into the open water, but for some days they will remain close to the jelly mass into which they will scurry when threatened by danger, real or imagined. Gradually their heads will increase in size, and soon a pair of hind legs will appear, to be followed shortly by the fore legs. Finally the tail will be absorbed by the body, and the result will be a finished frog, small, of course, but in every other respect like his seniors. Such a series of photographs as could easily be taken of the eggs, embryos, and the changes they undergo, is worth more, from an educational point of view, than all the printed matter that has ever been published on the subject.

If any operator thinks he is possessed of more than ordinary patience, let him now test his virtue by matching it against that of a fox. Photographs of live wild foxes are extremely rare, and he who obtains a good one will have reason to be proud of his skill. For practise let him try to get a picture of the cubs which will soon be big enough to come out on warm afternoons to play near the mouth of their den. They are very young and inexperienced, yet the photographer will find, after lying near the den for a week or two, that they know some things which it will take him a long time to learn.

To the nature photographer whose time is limited, or who does not possess an extremely fast lens, the wild flowers offer a field at once delightful and inexhaustible. The photographing of wild flowers is much less trying to the nerves than taking pictures of wild animals, and, moreover, good results are apt to be numerous. In the first place, flowers neither run away nor fly away, but wait patiently for the slowest operator to select his point of view, focus and expose; and if he has doubts as to

COMMON TOAD. E. H. Baynes.

the correctness of exposure, he may try it all over again, for his subject has not vanished at the click of the shutter. A little good work has been done in flower photography, but very little. Some day some one will give as much thought to this branch of the art as Eickemeyer, Cox, and others, have given to the portrayal of the human face; then we shall have flower portraits worthy of the name. Some of the more recent work of Marion S. Gaines, whose flower studies appear in this and other magazines from time to time, comes nearer to perfection than any other which I have yet had the pleasure of seeing. Mrs. Gaines has lately taken the only portrait of a rose, that I have seen, which to me recalls the appearance of a rose. It may be rash to prophesy concerning the future work of one whom I have never met, but I believe I have followed her work and marked its steady improvement long enough now, to venture the prophecy that Mrs. Gaines will be one of the first to reach perfection in flower portraiture.



YOUNG SCREECH OWLS. By C. Wm. Beebe.

Manipulating Negatives

F. LEACH

IT is often said that a skillful retoucher can do anything with a negative, which is perhaps true, at any rate he can and often does alter it to such an extent that we can hardly recognize its likeness to the object it is supposed to represent. When the retouching is carried so far, it makes matters worse than if he had left the negative as it was at first.

instance, that you have a picture of a house. The negative shows plenty of detail, but from overexposure or fog the picture presents a dull aspect, the sky being dark and muddy looking. For such a negative you had better make a shade out of cardboard that will cover over most of the sky. Then if you keep moving it slightly while the printing is going on, the sky will come out white, thus

A MAPLE GROVE. By Arthur E. Poole.

On account of the shortness of bellows on most cameras possessed by amateurs, portraiture is not attempted as often as it might otherwise be. Therefore, I will not waste time describing the methods used to improve portraits, but will give you a few points on out-door work.

Any negative of a house, landscape, or other view, can be improved to some extent. Let us suppose, for

much improving the looks of your picture. Some use opaque or india ink to paint on the sky, but it requires much skill to shade it off so as to have it invisible in the print.

Now you want a few clouds. There are several ways of producing cloud effects, the most common being to have a few negatives of clouds on hand, and print these into your picture. If you are good at painting

you can brush in the clouds with opaque on the back of the negative. This will give white clouds in the picture.

Here is another way that sometimes gives good results. Mix up the following solution:

No. 1.

Red prussiate of potash	1-2 oz.
Water	10 oz.

No. 2.

Hypo	1-2 oz.
Water	10 oz.

Before using mix equal parts 1 and 2, apply to the plate with a tuft of absorbent cotton. You will see that wherever the solution comes in contact with the film it lightens it considerably. So if you paint clouds into the sky with this solution, it will allow the light to come through and render dark cloud effects on your picture. Solution No. 1 should be kept in a dark place, as it is extremely sensitive to light.

The above preparation makes one of the best all-round reducers for overdeveloped plates that I know of. I came across a plate, the other day, that was so dense that it took eleven hours to print in strong sunlight. It was taken by a novice, who thought he would get a better picture by having the sun in his lens, instead of at his back. I managed to make a passable plate out of it by leaving it in this solution for about twenty-five minutes.

If your plate is underexposed dilute your developer one-half before starting, and after development has proceeded for a while, transfer to a developer of full strength. Even then the negative may not have sufficient density. If not, it can be improved by placing the plate in a bath of bichloride of mercury until bleached, then transfer to a tray containing 1-2 ounce of sodium sulphite to 4 ounces of water. The mercury is poisonous, and it will be safe to wear rubber finger tips while using it.

PINHOLES, SPOTS, ETC.

Pinholes in the plate will have to be carefully spotted with india ink. To do this successfully, a small camelshair brush must be used, well pointed. Take just a little ink on the point of the brush, and apply to the center of the pinhole. If this is done carefully the spot will be invisible in the print.

Spots are often caused by trying to print blue-prints before the paper is entirely dry. They can be removed by immersing the plate in strong ammonia until the spots turn brown, then transfer to a weak solution of hydrochloric acid, wash thoroughly.

Here is a method that, although somewhat cumbersome, could be used when you wish to "fake" a negative. Prepare a solution of Farmer's reducer, given above, apply this to any part of the negative, and let it remain until that part shows like clear glass. Then cut out some portion of a celluloid film, and place on the clear portion and print as usual. Many curious combinations can be had by this method, such as a child with a man's head, baby balancing a man on his hand, etc.

Now I will gives one more formula for improving underdeveloped and thin plates. Place negative to be redeveloped, for twenty-five minutes in a bath of

Bichromate of Potash. .	20 gr.
Hydrochloric acid. .	70 drops.
Water	3 oz.

Then apply any developer you please, though probably metol-hydro will give the best results.

The Camera in Zoology

W. H. MAC CRACKEN

ALMOST every one uses a camera more or less, but I think it safe to assert that very few people can be said to actually take photographs, and still fewer are those who have really done any experimentation in photography, with a definite purpose. Up to the present time there has been quite too much of the button-pressing work, and the taking of photographs has been more a matter of recreation than of practical utility.

There are several reasons for this, as I shall try to show, but just now I wish to emphasize those points which should make the camera an indispensable adjunct to any biological laboratory.

In all scientific work it is necessary that we aid and support defective memory in some way or other, a fact which has led to the use, perhaps ultimately to the abuse, of the note-book, and which has brought laboratory sketching so much into vogue. In notes, and still more in sketches, we have to take into account the element of personality. Especially is this true when the subject studied is alive and moving, as most zoological matter is or should be. No two people see alike, and if two students make sketches of a somewhat complex motile organism, it amounts to a certainty that they will turn out contradictory pictures.

The camera, I need not say, is entirely impersonal. Once it is focused and adjusted properly, it

BELLERIVE WOODS, GENEVA. By C. JANET.

makes no difference whether you or I make the exposure. In the matter of detail, our results will be precisely the same. Moreover, no one ever drew a picture of a moving animal for the simple reason that even a snail moves faster than it can be drawn. So that a sketch is at best a series of efforts of memory, and need not when complete resemble the animal in question, and unless made by a highly trained student is of very doubtful accuracy. Setting against this the fact that the entire picture with the exactness of detail in light and shade is possible with the camera in 1-100 of a second or less, the advantage of the instrument appears at once.

It may be urged that the student in drawing comes to observe his subject more closely than he otherwise would.

For my part, I don't want a student of mine to observe an animal for the sake of being able to draw it in his note-book. I can scarcely imagine a more unscientific procedure. Besides, I am by no means sure that in a case where an organism moves slowly enough to admit of prolonged observation, or is stationary, a student will not observe it quite as closely in the work of accurate focusing, etc., as he would while hurriedly engaged in making a rough drawing.

For the working scientist there can scarcely be said to be any choice. The camera, properly designed and used, will win the day every time. It is worthy of note that in court the evidence of the photograph is accepted when the drawing is refused.

The camera is being used more and more as we appreciate the importance of studying plants and animals in relation to their environment.

Along this line, the botanists are, for obvious reason, ahead. And many recent works owe their greatest merit to their photographic illustrations.

To my mind a great point in favor of the camera as a zoological instrument lies in the use that can be made of it in recording the metamorphoses so common in the life histories of many animals.

I have in mind a series of photographs which I took of Attacus Cecropia. These begin with the cocoon, and end with the moth with wings completely expanded. As an experiment, I mounted these pictures on a roller so that they could be presented to view in rapid succession, kinetoscope fashion, and though there were only a dozen, I was still able to demonstrate the process very nicely, and the great moth would apparently work its way out and expand (in rather a jerky fashion, to be sure), and in a few seconds instead of several hours.

In regard to the camera, there is no such thing as an "all-round" instrument. You may be certain, if you haven't used one, that the ordinary camera sold by opticians, druggists, newsdealers and hardware men, and offered as a premium for selling soap to your neighbors, will never be of the slightest scientific use, even though it may take pretty little pictures.

Another misstatement which we often read is that it is all in the lens. This isn't so. The mechanism is extremely important, and while this or that man may boast of having taken good pictures with a lens screwed into a cigar box, I can't advise anyone to follow his plan.

The laboratory camera may be used to take landscapes and portraits, but is not to be recommended for that purpose. It must be a long bellows instrument in order to admit of varying adjustment, and should have several lenses of various focal lengths. To catch the motion of a bird's wing, it must work in 1-500 of

a second, and then will fail to give a clear image in the case of a humming bird. There is no time given for micrometric focusing. Some companies are making a convertible lens that, by shifting of parts, can be made to answer all purposes.

One combination of my lens gives a focal length of 22 inches, necessitating a bellows length of nearly 3 feet, and I have often wished that I had a longer one still, for only with a lens of great focal length can an ordinary object be shown well in focus and without distortion.

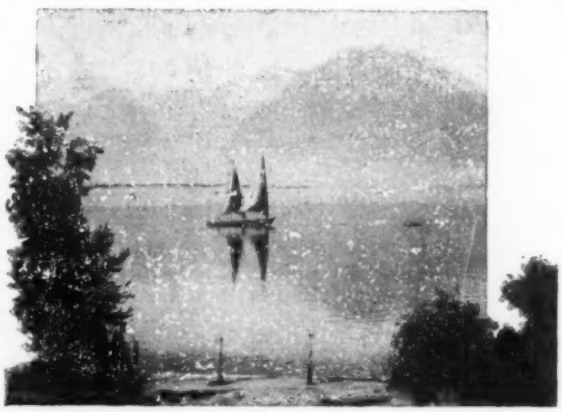
Another important thing is to get the biggest, best lens that your pocketbook will allow, for those of long focus are slow, and a lens that will cut clearly to the edge of the plate with a sufficiently large aperture for instantaneous work is costly.

The camera must be constructed to work in any position. In the laboratory of the University of Buffalo, I have often found it convenient to point the lens straight downward, and again toward the ceiling. So much for the laboratory camera.

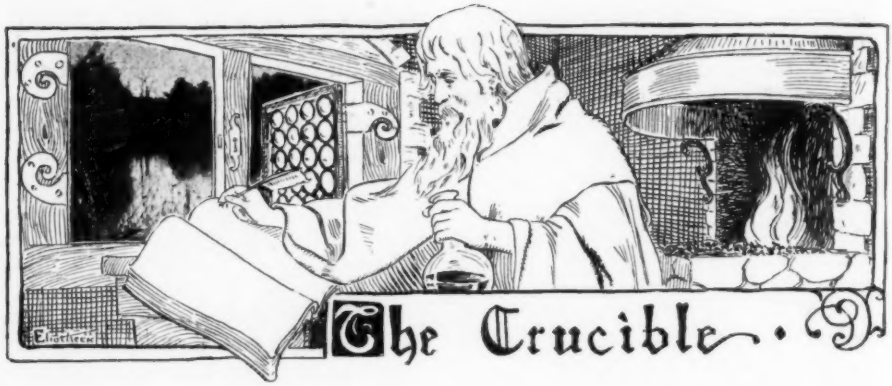
To do satisfactory work on wild animals and birds is still harder, on account of their great freedom and rapidity of motion. Very recently I contrived a piece of experimental apparatus, by means of which I have had a little success.

I took two lenses, each of 20 inch focal length, and set them so that I had a sort of double-barreled camera. One lens focused on a two-inch square piece of ground glass, and the other on the surface of a film beside it. The two cameras being parallel, of course the picture on the ground glass was exactly like the image on the film, and by watching the glass I could tell just what sort of a picture I would get, and just when the subject was in focus. So the instant of springing the shutter was determined to a nicety.

At present scientific photography is in the act of being born. Many hard problems are as yet unsolved, and this is largely for lack of time and money for necessary research. Still work is being done, and perhaps even you and I may yet be able to put our nickel in the slot and watch the caterpillar turning to a chrysalis, the mother bird feeding her young, or a battle between rival stags, instead of a slugging match between pugilists. (School Science.)



A BOAT ON LAKE GENEVA.



TELEPHOTO LENSES. The spread of telephotography has been much hindered by the necessary cost of carefully figured and completely corrected telephoto combinations of high magnifying power. While there is no ground to hope that such lenses will ever be sold at a very low price, there are telephoto combinations adapted for use with rapid rectilinear lenses which make it possible for almost any amateur to try this fascinating branch. While such combinations are naturally much cheaper abroad than here, on account of the high duty on optical goods, yet a 4 by 5 telephoto combination to replace the front combination of a symmetrical lens costs only about eight dollars, and will magnify several diameters. Of course with this, as with the back combination of the lens alone, an extremely long bellows is needed The various spectacle lenses sold for the purpose of increasing the magnifying power of a combination by addition to the front, are to be avoided, as they are not and cannot be corrected, and must give false results, both as regards achromatism and rectilinearity. All the advantage of having a corrected lens is thrown away, as they will give as good results with a fifty cent lens as with the best that money can buy.

VIEW FINDERS. When using a new camera, it will be well to see if the view as shown in the finder agrees with that which is reproduced on the plate. Very often this is not the case, and as this is a matter of considerable moment to users of hand cameras, a simple method of comparing the two may not be amiss. Of course, a rough comparison may be made by focusing on a brightly lighted view, and making visual comparison; but one may desire to correct the finder so that its indications may be relied on. Set the camera on a table or window sill, and mark its position by a pencil line around the base, so that it may be exactly replaced. Photograph the view from the window, and develop and print. Then replace the camera, and compare the view on the print with that shown in the finder. If the finder has the larger field, it will be a simple matter to black out the superfluous parts on the top glass, with a little ink. If the finder is too small, the only remedy is to get a larger one, and treat that in the same manner.

FLATTENING PRINTS. Prints made by almost any process, but especially those where an emulsion is present, have a distressing tendency to curl when drying. Platinum and blue prints may be dried between blotters, and will then remain perfectly flat. Collodion prints may be dried the same way, and if they still show a curl, should be stroked on the back with a ruler, pulling upwards slightly at the same time. Gelatine prints should be squeegeed, and will then remain flat, if allowed to come off spontaneously. If the very glossy surface is objected to, ground glass may be used as the support, but it must be scrupulously cleaned and talced. Velox prints must be dried face up, without coming into contact with any thing until dry, as they stick permanently to anything with which they dry in contact. They can then be flattened with a ruler, as described above.

GOERZ PLATE ATTACHMENT. The C. P. Goerz Optical Works furnish a plate attachment for the No 3 E. P. K. which enables the user to employ either plates or films, and focus on the ground glass. The price is very reasonable, and the makers will be pleased to supply information or request. Their address is 52 E. Union Square, New York.

Notes and News

CAMBRIDGE, MASS. The fourth annual exhibit of the Harvard Camera Club was held March 6-8 in the Randall Room, Brooks House, Cambridge. About 200 pictures, entirely by members were shown. The quality of the work was, on the whole, satisfactory, although not as good as that of last year. The judges were Prof. Charles Eliot Norton, Mr. Philip P. Sharples and Dr. E. R. O. von Mach. Gold and silver medals and honorable mentions were awarded as follows: First prize, Frank R. Fraprie; second prize, Frederic Bonnet, Jr.; honorable mention, G. O. Carpenter, Jr., H. R. Colson, H. W. Eliot, 2d, T. M. Fisher, E. L. Getchell, W. C. Lane,

HAVERHILL, MASS. The loan exhibition of the Haverhill Camera Club, held March 18-22, was one of the most successful exhibitions which has ever been held in New England. The invitations to contribute were accepted by a large number of contestants from all over the country.

The total number of prints was 507 from 95 exhibitors, of whom less than a dozen have ever shown at the Salons. In spite of this, or perhaps because of it, the quality of the work was exceedingly good. Honorable mentions were given as follows: C. R. Hanson, Gloucester; E. L. Blatchford, Gloucester; A. L. Coburn, Boston; A. E. Collins, Haverhill; R. Eickemeyer, Jr., New York (2); G. R. Fisher, Newton Highlands (2); H. A. Hess, Jacksonville, Ill; C. D. Palmer, Manchester N. H.; G. W. Norris, Philadelphia (2); J. R. Peterson, Portland, Me. (2); Anne Pillsbury, Boston; Mary R. Stanbery, Zanesville, O.; W. Zimmerman, Camden, N. J; H. F. Smith, Syracuse, N.Y.

We have the pleasure of acknowledging receipt of an advance copy of the Kodak 1902 catalogue, which is truly a handsome specimen of the printers' art. The new goods include the Folding Pocket Kodak de Luxe, the Stereo Kodak (price $15.00) the No. 2 Brownie and the new No. O Folding Pocket Kodak listing at $6.00. Then there are the plate attachments (with soring actuated ground glass) for the No. 3 Folding Pocket Kodak, and the new Folding Head Tripod. In special equipments they list the B. & L. Automatic Shutter and the Plastigmat Lenses, a rare combination for quality. The book is distinctly original, like all the Kodak output, and shows the presence of a master mind directing the vast interests of this great establishment. In this connection, it is not without interest to learn that the judges of the "Kodak Progress Competition" are Charles I. Berg, Henry T. Trott a d Rudolph Eickemeyer, J., three names that stand in the forefront of photographers. We congratulate the Kodak Co upon the good fortune to secure the services of such representative men.

The organization of the New Anthony and Scovill Company, with a capitalization of $2,500,000 is now an accomplished fact. The offices will be located at 122 Fifth Ave., New York, with a branch office in Chicago. The president is Mr. P. A. Anthony; vice-president and treasurer, F. H. Anthony; second vice-president, C. B. Stanbury, and secretary, A. C. Lamoutte. The above named, with W. I. Lincoln Adams, Thos. W. Stephens and W. T. Wisner, constitute the board of directors for the new corporation. They are all names well known and honored in the photographic trade, and the success of the corporation seems assured from the start. If good wishes can bring it about, the hosts of friends and well wishers throughout the country, will make the success a good one beyond peradventure.

The presence of a strong hand and a clear brain at the helm is indicated in the awakened business enterprise of the Rochester Optical and Camera Co of Rochester, N. Y. Mr. Louis Kirstein, the newly elected president and manager, is well and favorably known to the photographic trade generally, as the founder of the house of Andrew J. Lloyd & Co., the leading amateur photo supply store in New England. His transfer to a larger field of activity is sure to result in increased benefit to the trade. The new design of cameras, described elsewhere in this issue, particularly the Snappa and Pocket Poco, are marvels of skill and ingenuity. All that experience and knowledge can suggest would seem to be embodied in these instruments. And we would advise all, who are interested, to secure copies of the 1902 Catalogues, which describe their cameras in detail, and may be had gratis, on application to the Rochester Optical Co, Rochester, N. Y.

VOLUTE SHUTTER The Bausch and Lomb Optical Company of Rochester, have just brought forth a new shutter which they name the "Volute," and for wh ch they c aim the ollowing advantages: it is ih most compact and smallest shutter yet made of the iris diaphragm type; it will take larger lenses and closer combinations than any other, and the simplest to operate.

17TH CENTURY ARCHITECTURE. By WENDELL CORTHELL

The Round Robin Guild

Conducted by Elizabeth Flint Wade

(Any amateur photographer may belong.)

EDUCATIONAL PHOTOGRAPHY

The PHOTO ERA has struck a note which may prove a key-note to educational progress. This is the use of photography in public schools in teaching certain subjects practically as well as theoretically. The idea is so clever, so practical, and withal so fascinating, that the only wonder is that it has not been thought of long ago, for there is apparently no limit to the uses of photography.

This present month is just the time to use the camera in that most charming of all studies, Nature studies. On all the trees and shrubs the buds are swelling, and a few weeks will see them covered with a delicate green. This beautiful veiling of the bare boughs comes so gradually that one scarcely notices the change until all at once the thing is done. Now this is the suggestion for the teacher. Let the children gather small branches of the different shrubs and trees, place them in water, set the jars or glasses in a sunny window of the schoolroom, watch the unfolding of the buds, and make a photographic record of their development. The pussy willow, the elm, the soft maple, the spice bush, the lilac, and the cherry, apple and plum, all take kindly to their new location, and diet and thrive and grow rapidly. Just now there stands on my table a branch of a cherry tree laden with white blossoms which have been scarcely more than three weeks in coming to their present state of perfection. The children are always interested in plant life, and this unfolding of the trees before their eyes is to most of them a distinct revelation. Photographs of four or five of the most beautiful of the branches should be made at intervals of more than two or three days, beginning with the branches when first brought in and continuing until their blossoming. The photographs give the growth from the beginning up through the different stages and are most interesting studies in themselves. One must not omit to mark the dates of the making of the print. The blossoms of the soft maple, of the pussy willow and the elm, are of special interest.

The photographs should be made all on

one scale, with the jar in the same position and at the same distance from the camera each time a picture is made.

Which school will try this series of pictures? The editor of the PHOTO ERA offers a year's subscription to his magazine to the school which sends in the most successful series before June 15th.

PROCESSION OF THE FLOWERS

Another nature study suggestion is the photographing of the wild flowers, beginning with the first spring flowers and photographing the varieties as they appear from month to month. Leaves, and buds, and blossoms, must all be included in the pictures. This will prove to be a most interesting and absorbing pursuit. We would like to have pictures sent to the Guild of flowers from all over the Union, and also from our foreign members, for our Guild numbers among its organization members from far off New Zealand. This photographing of the flowers would make a floral calendar, and the prints would be very artistic for decorative photography.

THE CAUSE AND THE EFFECT

Experimental knowledge is always an expensive knowledge. The amateur photographer will bear witness that this is too true. Most of his photographic knowledge is acquired through dear experiment. The chief reason why the stepping stones to photographic success are so costly is that most amateurs neglect to study cause and effect. Take for instance the ingredients of a developer. The amateur buys the chemicals and makes up the solution according to the formula, but if one were to ask him their nature and use, the chances are ten to one that with the exception of the active agent—the pyro, hydrochinon, metol, or the amidol—he would be totally ignorant of their chemical action and why they were incorporated in the developer. Let us take a formula for pyro developer, this being a popular and well-known developer, and see what is the nature of the chemicals which compose it and why they are used. Pyro is usually made up in two solutions and mixed when desired for use.

Solution No. 1 is made up of pyro, sulphite of soda, bromide of potassium, citric acid and water. Solution No. 2 is made of sulphite of soda, carbonate of potassium and water.

Pyro, shortened from pyrogallol, the correct name, is obtained by decomposing gallic acid by heating it at a temperature of 400° F., the reduction taking the form of very thin, flat crystals, white in color and easily soluble in water. Exposed to the air these crystals absorb oxygen very rapidly, turning first yellow, then brown, and finally black, in which latter state they are useless for photographic purposes.

As oxidation takes place so quickly, it is necessary to treat it in some way to prevent this, so a chemical is added to the solution called a preservative, which prevents the decomposition of the pyro crystals. In this case the preservation is sulphite of soda. It acts as a preservative, keeps the pyro solution clear during development, and prevents the staining of the plates which would otherwise occur during prolonged development. Now while the sulphite of soda acts as a preservative, the combination of it with the pyro makes a solution strongly alkaline. A developer too alkaline tends to fog the plate, the fog being called chemical fog, so another agent is called into use in order to act as a preventive. An alkali is a substance which has a strong affinity for an acid, and when combined with it forms a salt in which the peculiar properties of each are modified or destroyed, hence they are said to neutralize each other. To destroy the alkaline properties of the bath an acid is added to it, and in this formula citric acid is used in such proportion as to counteract the alkaline qualities of the bath. Every developer contains a chemical which regulates the action of the developing agent on those parts of the silver salts which have been affected by light. and preventing its action on those parts which have not been affected by light. This chemical agent is called a restrainer, because it retards or holds back the action of the developer. The restrainer most in use is bromide of potassium. The reason why it restrains the action of pyro is because the pyro attacks potassium bromide in preference to the silver bromide, thus causing the precipitation of the silver bromide to take place more slowly.

Solution No. 2 is an alkaline solution, and is added to the developer just before using. The office of the alkali is to bind the bromide as it becomes free from the silver during the process of development, and helps to build up the image on the plate.

One chemical which the amateur should have always with him in the dark room is bromide of potassium. Its action in restraining overexposure is wonderful, and by its timely use one can save what seems a hopelessly overexposed plate.

JUDICIOUS TRIMMING

Many of the prints sent in to the editor for examination and criticism reveal the fact that the artist is unwilling to sacrifice any of the detail in his negative. The whole image on the plate is included in the print, when in most cases a judicious trimming would have added twenty per cent to

its artistic value. Oftentimes a half inch from the bottom or top of a picture emphasizes the perspective which was lost, owing to the stretch of foreground or the wide expanse of the sky. In looking at a picture, the eye is first attracted to the high lights, the shadows being the secondary objects. In some landscape pictures received recently a strong high light near the edge of the print obtruded itself on the vision, though it was not the principal object in or added to the merit of the picture.

One thing which the photographer must learn is to confine the high lights to one place, so that the eye shall not be distracted by the spots of light here and there on the picture. There may be many gradations of light and shade, but there should be few strong head lights, and these used to bring out the principal object, the motif of the picture.

Another rule which should always be borne in mind is this, that the center of a picture is its weakest point. This axiom is more often transgressed than followed, though it has been repeated so often one would think it must be universally known.

PHOTO MOUNTS

What is there about a photograph that debars it from a suitable margin?—"I could be bounded by a nutshell" seems to be the proper rule for mounting photographs. At the supply houses the amateur is shown small stiff cards with stamped borders, with a margin perhaps an eighth of an inch around the print. Now a good photograph deserves just as good a setting as an engraving or an etching, and these are never made with the tiny strip which is chosen for the backing of our photographs. But the amateurs go on buying the contracted mounts with the hideous borders, and the manufacturers go on making them, for the supply meets the demand more than half way.

Now we would like to have the members of the Guild pledge themselves not to mount a print on a card too small to allow at least two inches margin all the way around. The Guild being a power it can exercise some influence in doing away with the inartistic mounts now manufactured for photographs.

Pass coldly and calmy by all the ready prepared mounts, the gilt edge and ornate ornamented cards, the plate sunk barbarisms, and choose a creamy white or a soft gray in large size, and mount your print on it, and see how nobly it sets it off. You will be surprised at the addition to your picture. Better still than the stiff cards are the "cover papers" which may be bought of the manufacturer or ordered through a book dealer. If one lives in a small town a card to the manufacturer will bring him a sample book from which he may order paper of the texture and color most desirable for his pictures. Another thing which commends this paper is that it is much cheaper than the commercial card mounts. A word about placing of the print on the mount. Never place it exactly in the center of the mount, but paste it so that the wider margin comes at the bottom of the picture.

ANSWER TO CORRESPONDENTS.

Byron S. Green.—The print which you sent is an excellent negative, and your point of view well chosen. The figures being in shadow gives finer results than as if the sun had been shining directly on the white statuary.

Fred. W., Jr.—The prints which you sent of Central Park show taste in selection of subject, but the time of day was not well chosen. The sun was too strong on the foliage and the high lights are too white. Try the same subjects on another day, either later in the afternoon or earlier in the morning when the shadows are long and soft, and send me the result.

G. B. L.—Taking outdoor photographs at night is not at all difficult, on the contrary it is quite easy and many of the results most excellent. Some of the best effects are to be secured on rainy nights on streets well lighted by electricity. The lights shining in the pools of water and across the wet pavements make the scene most attractive. Use a large stop, a non-halation plate, and vary the exposure from three to ten minutes, according to the degree of light. Overexposure seldom occurs in night photography, so one need not be afraid of that accident. If you are successful, please send examples of your work to the editor; if not, please write and explain your trouble.

Ella F.—Local fog, such as the halation around a window, or around the branches and leaves of trees that stand out against a bright sky, may be avoided by using non-halation plates. The halation about a window may be removed from a plate by using a weak reducer and applying it with a brush to the places The solution should be rinsed off as soon as it is applied and the plate examined, for in local reduction one is very apt to over-reduce.

W. R.—A prize contest will be arranged for the members of the Round Robin Guild in the course of two or three months. In the meantime ask your friends to join the order, and when you make a negative make it with the idea of having it a prize winner in the coming contest.

PHOTO ERA

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The Salon Controversy

The March number of "Camera Notes" is very largely devoted to a setting forth of the views of the "New School" on the subject of the Philadelphia Salon. From the very bitter feelings of both sides to the controversy, which are there fully set forth, it is apparent that the Philadelphia Salons, if any, to be held in the future will not fairly represent American photography from the artistic standpoint, for it cannot be denied that the loss of the workers who have seceded is a serious one. It is thus apparent that neither New York nor Philadelphia will afford an exhibition next winter which will represent both sides. The difficulty which lies at the bottom of the whole controversy is that the photographic world in general has felt that there has been an injustice perpetrated in the disproportionate number of pictures exhibited by the jury in more than one salon. It is true that the juries were asked by the management to do this, but sound judgment should have kept them from what was undoubtedly a breach of good taste, and a bitter provocation to exhibitors whose work was rejected.

The next Salon which shall be truly national, will be held neither in New York nor in Philadelphia. There are several cities where it might be held; Washington, Boston and Chicago each have camera clubs and art institutions which might cooperate profitably, and any of them might attract a national representation. The one essential to success, if the exhibition is to be representative of artistic photography is, that the jury be composed entirely of artists who have no interest in photography; only such men can fairly judge photographs as works of art. Certainly no photographer can object to such a jury, if he calls his work art; he can neither feel that his work will be rejected because he does not belong to a particular school, nor because it does not reach somebody's technical ideal. The jury of the Paris Salon is composed of twelve painters and sculptors; photographers have no place upon it. If one of the cities above mentioned will take up this task, and any faction fails to respond, either through local jealousy, or through the desire to flock by themselves, to have a little exhibition of their own, filled by their own invitees, judged by themselves, that faction will forever discredit itself, and conclusively prove that it stands for its own glorification, and not for the advancement of artistic photography.

The PHOTO ERA has no feeling against any artistic worker or group in America; its sense of fairness, like that of most Americans, was outraged by the action of the jury in one or two Salons; but it will gladly welcome any solution that will settle the question amicably.

Grandpa's Lesson in Artistic Photography

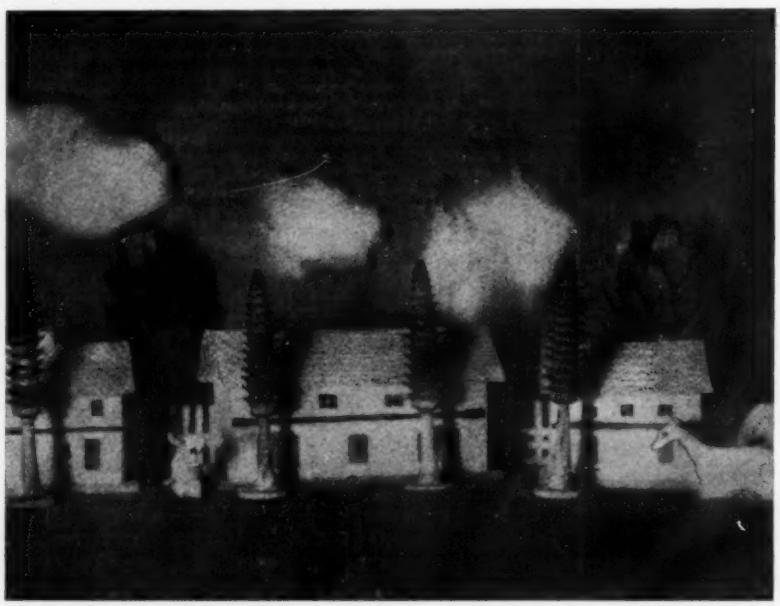
DEAR CHILDREN,— It is all very easy to make those nice Pictures of Places and People, so plain that almost any one can tell what the Picture is about. But it is quite different to make photographs which are so very extra Fuzzy that the Puzzle Page of the Sabbath Newspaper isn't in it in comparison.

Suppose, children, that you want to take a picture of a nice little Rustic Village, consisting of three houses, five or six trees and two fleecy clouds, you may think that all you have to do is to stand off from the Village and focus it properly in the ground glass, making sure that the clouds stay right there until you have put the plate in and made the exposure. Your picture made in that way would look so much like a village that no one would need to consult a Catalogue to find out anything about it. If by any accident you fail to disarrange the focus, you may, after the plate has been finished, put a couple of clear pieces of glass in between, and can in that way get a nice little Fuzzy effect to Beat the Band.

But may be, children, the weather may be unfavorable for going out-of-doors to take pictures of Rural Villages. I will tell you how you can take a very Remarkable Photograph in your Playroom. You can take your Toy Houses and Toy Trees, and set them up on the carpet, and you can take a piece of board or a box-lid for the Sky. If you want to show off some lovely fleecy clouds, and you can get some cotton from mother's work-basket, and pin small pieces of it on to the Sky, making a very stunning atmospheric effect.

Now this Picture will be all very fine, but there will not be enough "Artistic Feeling," and you cannot pass the Fuzzy Salon Juries with it in that way. However, if you slide down the Cellar Door on that negative, and give it to the Cat to play with, and then print through some pieces of Extra Glass, you will be getting more and more Artistic all the time. It is important that the paper should lay around the Back Yard for a few days, and get frayed and dog eared, after which it will be in a fine printing condition. Be careful to mount on a couple of odd Scraps of Paper, and to avoid the center of the mounting card, and you will then have a wonderful effect truly worthy of reproduction in several Eminent Photographic Magazines which print all sorts of Queer Things. Remember finally, children, that unless the Picture which you send in to the Jury looks exactly as if it had been fished out of the Ash-Barrel, you can never hope to have it exhibited at the Fuzzy Salon.

Your affectionate GRANDPA.



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Flash lamps or lighting, see Lighting, artificial.

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